

Ernest Marsden, D.Sc., M.C., Professor of Physics, Victoria University College, Wellington, New Zealand (proposed by C. E. Adams);  
 Lord Rayleigh, 69 Cadogan Square, S.W. 1 (proposed by Alfred Fowler);  
 Carl Sanders, Planter, Matuba, Cabinda, Portuguese West Africa (proposed by W. de Sitter);  
 James Francis Schofield Shepherd, M.A., 9 Park Road, Halifax (proposed by the Rev. Charles Whyte);  
 The Rev. Samuel Paul Shipley, The Manse, Oakham (proposed by the Rev. J. T. W. Claridge);  
 David Williams, B.Sc.(Lond.), Professor of Mathematics, Rhodes University College, Grahamstown, South Africa (proposed by W. H. Finlay); and  
 Lieut.-Col. H. St. J. L. Winterbotham, C.M.G., D.S.O., R.E., Ordnance Survey, Southampton (proposed by Col. Sir Charles Close).

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One hundred and fifty presents were announced as having been received since the last Meeting, including, amongst others:—

J. H. Jeans, Problems of Cosmogony and Stellar Dynamics, presented by the author; and  
 Tycho Brahe, Opera Omnia, edidit J. L. E. Dreyer, Tomus III., Tomus IV., Fasciculus I., presented by Dr. Dreyer.

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*Photographic Reproduction of the Franklin-Adams Chart of the Sky.*

The original issue of these Charts having been exhausted six years ago, it is proposed to prepare a second edition of the reproductions.

Owing to the increased cost of materials, the price of the set of 206 charts, in three cases, has been raised to £20.

Applications for sets should be made at once. It is expected that the first sets will be ready in about a year's time. Further particulars are given on the enclosed slip.

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The portrait of Sir David Gill by George Henry, belonging to the Royal Society, has been photographed in permanent bromide: size of print 11 in.  $\times$  8 $\frac{3}{4}$  in., mounted on plate, sunk mount 15 $\frac{1}{4}$  in.  $\times$  12 $\frac{1}{4}$  in. for framing, and orders for copies will be received by the Assistant Secretary. The price is 6s., including packing and postage. Orders should be accompanied by remittance.

Nov. 1919. *Region of Sky R.A.  $3^{\text{h}}-5^{\text{h}} 30^{\text{m}}$ , N. Dec.  $20^{\circ}-35^{\circ}$ .* 3

*The Region of the Sky between R.A.  $3^{\text{h}}$  and  $5^{\text{h}} 30^{\text{m}}$  and N. Dec.  $20^{\circ}$  to  $35^{\circ}$ .* By Sir F. W. Dyson and P. J. Melotte. (Plate 1.)

1. In the introduction to the Greenwich Catalogue for 1910, which contains all stars down to  $9^{\text{m}}.0$  between the limits  $+24^{\circ}$  and  $32^{\circ}$  N. Dec., a table is formed giving the number of stars in each hour. These numbers are as follows:—

h h	h h	h h	h h
0-1 485	6-7 731	12-13 352	18-19 692
1-2 424	7-8 530	13-14 315	19-20 976
2-3 406	8-9 429	14-15 345	20-21 852
3-4 399	9-10 377	15-16 358	21-22 670
4-5 339	10-11 364	16-17 378	22-23 575
5-6 641	11-12 302	17-18 542	23-0 511

2. The regular rise and fall of the numbers, according to galactic latitude, is markedly interrupted at  $4^{\text{h}}$  to  $5^{\text{h}}$ . It seemed worth while to look more closely into this peculiarity, and a careful examination was made of the Franklin-Adams charts. It was at once seen from the prints that between  $3^{\text{h}}$  and  $5^{\text{h}} 30^{\text{m}}$  there were areas of considerable extent almost entirely devoid of stars. In the whole zone  $24^{\circ}-32^{\circ}$  N. Dec. there are only four other very small areas at all comparable with these. The outline is so clearly defined on the prints of the Franklin-Adams chart that it was easy with a pencil to trace out the sparse areas. The dark areas on the accompanying diagram are those originally traced out in this manner by Mr. Melotte.

3. After this had been done, it was decided to make complete counts of the original Franklin-Adams chart plates covering the whole region. Generally speaking, at each intersection of the réseau lines, which are  $1^{\circ}$  apart, an area of 400 square minutes was counted. In and immediately around the sparse areas the counts were made over larger areas. The figures given on the accompanying diagram are the number of stars per 100 square minutes down to a magnitude estimated to be 15.8 photographic.

The greater part of the area considered is covered by three Franklin-Adams chart plates at centres R.A.  $3^{\text{h}}$ ,  $4^{\text{h}}$ , and  $5^{\text{h}}$ , and Dec.  $+30^{\circ}$ . South of Dec.  $+22^{\circ}$  the counts were made on Franklin-Adams chart plates whose centres are at Dec.  $+15^{\circ}$ . Use was made of the overlap which exists between the plates to obtain a uniform scale of limiting magnitude. The accordance of the different plates was quite satisfactory.

4. It was necessary to correct these counts for the falling off in magnitude (reaching to approximately  $0^{\text{m}}.8$ ) of the Franklin-Adams plates from the centre towards the edge. The following